

REMARKS

Applicant has amended claims 1-4 to clarify language, to define the present invention more clearly, and to correct inadvertent errors.

Examiner objected to the drawing. In particular, the Examiner stated:

The drawings are objected to because of draftsman's remarks (see attached PTO-948).

Correction is required.

See MPEP 608.02(d). Any structural details that is essential for a proper understanding of the disclosed invention should be shown in the drawing. MPEP 609.02(d). Correction is required.

Applicant respectfully submit that the drawings show all structural details that are essential for a proper understanding of the disclosed invention, and that the draftsman's remarks merely relate to formalities which can be corrected after the case is allowed.

In light of the above, Applicant respectfully requests that the Examiner withhold this objection until the case is allowed.

Examiner rejected claims 1-3 and 5-7 under 35 U.S.C. 102(e). In particular, the Examiner stated:

Claims 1-3, 5-7 are rejected under 35 U.S.C. 102(e) as being anticipated by Guest et al., (US 6,252,981).

As per claim 1, Guest teaches an image processing system, a method for relating a first image to a second image comprising acts of:

(a) aligning (note, aligning the image is finding the best fit or match of the two images, fig 5, 514) the first image (note, selecting the first image, fig 5, 502) with a second image (fig 5, 508); and,

(b) plotting the gray level (gray levels are based on the digitizer values 208. The brightness and other image data of each die image may be normalized so that die images are not rejected as the result of lighting variations or other lighting condition do not effect the die quality, column 4, lines 36-52) of a pixel from the first image against the gray level of a corresponding pixel from the

second image for all aligned pixel locations (comparing the first die image to a second die image based on the pixel to pixel so as to generate a difference image, column 5, lines 1-37, column 6, lines 19-25, lines 36-52).

As per claim 2, Guest teaches the method of claim 1 further comprising the act of plotting a threshold (column 4, lines 47-52, window (note, edge variations between first image and second image, column 8, lines 6-9) on a plot created in act (b).

As per claim 3, Guest teaches the method of claim 1 wherein a plot created in act (b) is stored in a memory array variable (fig 2, 204, column 3, lines 13-19).

As per claim 5, Guest teaches a computer-readable medium storing a program for carrying out the method of claim 1 (column 3, lines 13-19).

As per claim 6, Guest teaches a computer-readable medium comprising:

a plurality (column 4, lines 25-31) of memory (column 4, lines 53-58) locations storing data representing a first image and an associated second image, said first and second images each having a plurality of pixels with each pixel being defined by a location coordinate and a gray level (column 5, lines 10-30); and,

an array comprising a plurality of memory locations storing data representing a plot of the gray levels of pixels from the first image (column 4, lines 26-58) against the gray levels of corresponding pixels from the second image (column 6, lines 5-40).

As per claim 7, Guest teaches a defect inspection system comprising:

(a) an image acquisition unit being operable to acquire a first image (fig 5, 502) and an associated second image (fig 5, 512, column 2, lines 2-7), the first and second images each having a plurality of pixels with each pixel being defined by a location coordinate and a gray level (column 5, lines 11-32);

(b) a plurality (column 4, lines 26-31) of memory (column 4, lines 53-58) locations storing data representing the first image and the second image (column 5, lines 10-30); and

(c) a processor (column 6, lines 5-25) being operable to plot the gray levels of pixels from the first image against the gray levels of corresponding pixels from the second image (column 5, lines 1-37, column 6, lines 5-40).

Applicants respectfully traverses the Examiner's rejection.

Applicant respectfully submits that claims 1-3 and 5-7 are completely different from the disclosure of Guest et al. Note that: (a) independent claim 1 requires plotting a gray level of a pixel from the first image against a gray level of a corresponding pixel from the second image for all aligned pixel locations; (b) independent claim 6 requires a plot of the gray levels of pixels from the first image against the gray levels of corresponding pixels from the second image; and (c) independent claim 7 requires a processor being operable to plot the gray levels of pixels from the first image against the gray levels of corresponding pixels from the second image.

Applicant respectfully submits that Guest et al. does not disclose, teach, hint or suggest, in any manner whatsoever, making such a unique plot. In fact, at the locations pointed out in columns 4-6 by the Examiner, Guest et al. teaches creating a difference image. As the Examiner can readily appreciate, such a difference image is completely different from the unique plot created in accordance with the claims of the present invention.

In light of the above, Applicant respectfully requests that the Examiner withdraw this rejection.

Examiner rejected claim 4 under 35 U.S.C. 103(a). In particular, the Examiner stated:

Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Guest et al., (US 6,252,981), as applied to the above claims 1-3, 5-7, and further in view of Webb et al., (US. 6,285,397).

Although Guest discloses system and method for selection of a reference die for determining whether other dies that are formed from the wafer contain defects or flaws, but fails to specifically mention about a display video monitor. However, Webb discloses CRT alignment and more particularly to the use of processor and memory within a host computer to store, process, and transfer necessary correction factor data to align video display on CRT devices (column 3, lines 53-64), as shown by Webb the use of a display video monitor, because this would provide any desired number of individual correction factor parameters, both static and dynamic, may be applied by the method of this invention

to produce the desired aligned, low distortion, video image (column 4, lines 38-47).

Therefore, it would have been obvious to one with ordinary skill in the art at the time of invention that by incorporating Webb's system by using a display video monitor of Guest, because one with ordinary skill in the art would realize that this would produce the desired aligned, low distortion, video image, as suggested by Webb at (column 4, lines 38-47).

Applicant respectfully traverses the Examiner's rejection.

Applicant respectfully submits that claim 4 depends from claim 1. As such, claim 4 requires plotting a gray level of a pixel from the first image against a gray level of a corresponding pixel from the second image for all aligned pixel locations. As further set forth above, Guest et al. does not disclose, teach, hint or suggest, in any manner whatsoever, making such a unique plot. In addition, neither does Webb et al. In addition, there is no suggestion for combining these references. However, even if they were combined they would not provide any disclosure or suggestion for making the unique plot.

In light of the above, Applicants respectfully request that the Examiner withdraw this rejection.

Examiner stated:

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Koso (US. 4,783,826) discloses pattern inspection system.

Rosenbaum et al., (US. 5,592,236) discloses method and apparatus for overlaying two video signals using an input-lock.

Maeda et al., (US. 4,511,929) discloses picture image information recording apparatus.

Straayer et al., (US. 5,506,793) discloses method and apparatus for distortion compensation in an automatic optical inspection system.

Bradley (US. 33,894) discloses apparatus and method for reading and writing text characters in a graphics display.

Applicant has reviewed the above-cited prior art made of record and deems it to be no more pertinent than the art discussed above.

Attached hereto is a marked-up version of the changes made to the claims by the current amendment. The attached page is captioned "Version with markings to show changes made."

In light of the above, Applicants respectfully submit that all the remaining claims are allowable, and Applicants respectfully request that the Examiner reconsider the case and pass the case to issue. Should the Examiner have any questions or wish to discuss any aspect of the application, a telephone call to the undersigned would be welcome.

Respectfully submitted,
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VERSION WITH MARKINGS TO SHOW CHANGES MADE

Claim 1 has been amended as follows:

1. (Amended) In an image processing system, a method for relating a first image to a second image comprising [the acts of]:

- a) aligning the first image with a second image; and[,]
- b) plotting [the] a gray level of a pixel from the first image against [the] a gray level of a corresponding pixel from the second image for all aligned pixel locations.

Claim 2 has been amended as follows:

2. (Amended) The method of claim 1 further comprising [the act of] plotting a threshold window on a plot created in [act] step (b).

Claim 3 has been amended as follows:

3. (Amended) The method of claim 1 wherein a plot created in [act] step (b) is stored in a memory array variable.

Claim 4 has been amended as follows:

4. (Amended) The method of claim 1 wherein a plot created in [act] step (b) is displayed on a video monitor.

5. (Not Amended) A computer-readable medium storing a program for carrying out the method of claim 1.

6. (Not Amended) A computer-readable medium comprising:
a plurality of memory locations storing data representing a first image and an associated second image, said first and second images each having a plurality of pixels with each pixel being defined by a location coordinate and a gray level; and,
an array comprising a plurality of memory locations storing data representing a plot of the gray levels of pixels from the first image against the gray levels of corresponding pixels from the second image.

7. (Not Amended) A defect inspection system comprising:
(a) an image acquisition unit being operable to acquire a first image and an associated second image, the first and second images each having a plurality of pixels with each pixel being defined by a location coordinate and a gray level;

(b) a plurality of memory locations storing data representing the first image and the second image; and,

(c) a processor being operable to plot the gray levels of pixels from the first image against the gray levels of corresponding pixels from the second image.